

Lyles House (Want Water)
Prince Georges County
(Broad Creek,) Maryland

friendly vanity

HABS No. 10-2

✓ HABS
MD.

17-BROCK,

2-

Reduced Copies of Measured Drawings

Photographs

WRITTEN HISTORICAL AND DESCRIPTIVE DATA
District No. 10

ADDENDUM
FOLLOWS...

Historic American Buildings Survey
Major H. Brooks Price, District Officer
1316 New Hampshire Avenue, Washington, D. C.

LYLES HOUSE
or
Want Water
Broad Creek, Prince Georges
County
Maryland

Owner: Mr. Charles W. Collins.

Date of Erection: Probably about 1704.

Architect and Builder: No record.

Present Condition: Poor.

Number of Stories: One and a half.

Materials of Construction: Brick ends, frame sides.

Other Existing Records: Early Manor and Plantation Houses of
Maryland, 23, 83, 84, 92.

Additional Data: See following pages.

LYLES HOUSE

Page 2

Want Water

Want Water was not an original patent but apparently overlaid parts of several older grants. For example, it cut across Wharton's Rest which was patented in 1662. Prior to 1662 one Nicholas Gynyther, apparently lived on that part of Want Water upon which the old house is built as the following quotation from the patent to Wharton's Rest will show: "bounding on the south with the land formerly laid out for Nicholas Gynyther now in the possession of Thomas Dent." The southern boundary of Wharton's Rest embraces that part of Want Water upon which the old house is built. However, I have been unable to trace the grant to Gynyther.

Want Water was patented on October 16, 1708 by Colonel Thomas Addison (under a warrant granted to him and Mr. William Hutchinson, gent. on March 15, 1706.) (Land Record D. D. 5, Folio 509, Land Office, Annapolis, Md.) Mr. Hutchinson died in 1711.

Colonel Thomas Addison was the only son of Colonel John Addison, a privy counselor of Lord Baltimore, and one of the founders of Broad Creek Church. The old house (Lyles) on Want Water was no doubt built by a gentleman and since the architectural evidence points strongly to the later 17th century or early 18th century, it would seem quite possible for Colonel Thomas Addison to have been the builder. I do not know the exact date of Oxon Hill manor, so cannot make a conjecture whether Want Water was the first Addison house.

want Water (Lyles House) is however one of the oldest, ~~if not~~¹ the oldest dwelling houses remaining in the vicinity of Washington. The house, as it stands today without the wings, is in external form exactly the same house which was first built. Architecturally, I am advised, upon good authority by experts who have examined both the interior and exterior, that the house could have been built as early as 1690. Historically, it would have been possible for it to have been occupied by colonists around Broad Creek at that time. However, the date of the patent, 1708, would fix the earliest possible date of the house if it be assumed that it was built by Colonel Thomas Addison after this patent was issued to him. On the other hand it is quite within the realm of possibility that the house was on the land at the time of the patent. The excellent workmanship and good taste throughout the construction of the house indicate that it was in the beginning the home of a gentleman.

upon the death of Colonel Thomas Addison in 1727, want Water went to his eldest son, John, who conveyed it to Humphrey Batt by deed November 23, 1736 (Land record, liber 1, folio 421.) Humphrey Batt was a shipwright.

Humphrey Batt, by will November 14, 1756 left want Water to his son-in-law, Richard Barnes. (Will 30, folio 343.)

Richard Barnes Conveyed want Water by deed to Knoch Magruder on June 12, 1761. (Land record N. R., folio 142.)

Knoch Magruder in his will dated July 8, 1785 left want water to his eldest daughter, Sarah, who was at the time the wife of Colonel William Lyles. (I have a certified copy of the will of Knoch Magruder but

1. Mt Airy, about 1660, is older

lack of volume and page references.)

Enoch Magruder was a large landowner in Prince George's County and owned that part of Battersea upon which is Harmony Hall. He apparently lived at Mt. Lubentia prior to his death. Colonel William Lyles and his wife Sarah were probably living at Want Water prior to the death of Enoch Magruder in 1786 since they were married about 10 years earlier and this house seems to have been available to Sarah.

Title to Want Water was perfected in Colonel William Lyles on August 26, 1795 by a transfer from Colonel William Lyles and his wife, Sarah, to Dr. William Baker who in turn on the same day transferred Want Water to Colonel William Lyles. (Liber JRM no. 4, folio 96 - Prince George's County, Md.)

Colonel William Lyles died in 1815 and left both Harmony Hall and Want Water to his second son, Thomas G. Lyles, "after the death of his mother." (Will probated January 31, 1816 - Liber T T No. 1, page 164-166, Prince George's County Wills.) His mother Sarah Magruder Lyles died in 1820 (Liber T T No. 1, page 282, Prince George's County Wills.)

Both places remained in the Lyles family until 1850 when Harmony Hall was sold to William J. Adelen.

Want Water as originally patented was a long narrow strip of land which embraced almost all of the east bank of Church Branch of Broad Creek. The church itself (founded in 1692) first built of wood, was built directly on this body of water with a landing known as Church Landing at the door of the church. The water was navigable from the channel of the Potomac River to the church.

After the time that the Addisons disposed of Want Water in 1736, the most prominent owner was Colonel William Lyles, a wealthy landowner and son-in-law of Anoch Magruder. He lived here at the time of the Revolution but some time before 1800 he moved to Alexandria where he was a stockholder in Farmers Bank of Alexandria. Colonel William Lyles was an intimate friend of George Washington, there being ample documentary evidence of this fact in Washington's writings. It is reasonable to conjecture that Washington, whose barge frequently passed the very door of Want Water on those Sabbaths when he worshipped at Broad Creek Church, upon occasion stopped for dinner with his friends at Want Water.

The distance from the church to the Lyles House (Want Water) is only a leisurely stroll of about ten minutes and there appears to have been a pathway following the banks of Church Branch to the door of the church. When I had dredged out a part of Church Branch in 1932, I discovered, in clearing the brush from the bank, a row of double yellow daffodils, just above the high tide mark, thus indicating the extent of landscaping in those days. This stream has long ago been abandoned for navigation and access to the church has been by roadway for over a century.

Colonel Lyles had ten children, the youngest of whom was Anoch Magruder Lyles who was killed in a duel August 7, 1805 at the age of 26 years. The duel was occasioned by a remark of a cousin, John Frazier Bowie, at a dance which young Lyles considered as a reflection upon his sister's dancing. It is said to have been Colonel William Lyles himself

who insisted that his son challenge his cousin to a duel. The duel was fought in the early morning on the Virginia side of the river about six miles south of Alexandria in view of the shore of Broad Creek. Colonel Lyles watched the duel from the Maryland side through his field glasses. Young Lyles was mortally wounded and was brought back across the water in a boat rowed by slaves and he died at want water at 11 o'clock that day. The son is buried in the old church at Broad Creek and the tombstone bears an epitaph written by his father, Colonel Lyles, in which he calls on God to avenge the death of his son.

Author: Charles W. Collins, National Press Building,
Washington, D. C.

Approved: Major H. Brooks Price, District Officer

By *Wm. M. Rittenhouse*

Reviewed 1936, H. C. F.

Lyles House (Want Water)
Livingston Road
Friendly Vicinity
Prince Georges County
Maryland

HABS No. MD-10-7

HABS
MD,
17-BROCK,
2-

Addendum to
Lyles House (Want Water)
Prince Georges County
Broad Creek, Maryland

PHOTOGRAPHS

LYLES HOUSE
(Want Water)
Livingston Road (rear of 10511)
Fort Washington
Prince George's County
Maryland

HABS NO. MD-10-7

HABS
MD
17-BROCK,
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Addendum To:
Lyles House
(Want Water)
Livingston Road
Friendly Vic.
Prince George's County
Maryland

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Buildings Survey
National Park Service
Department of the Interior
Washington, DC 20013-7127

HISTORIC AMERICAN BUILDINGS SURVEY

LYLES HOUSE
(Want Water)

(page 7)

Addendum To: HABS NO. MD-10-7

Location: Off Livingston Road, located on the Harmony Hall property (HABS NO. MD-10-8), at 10511 Livingston Road. Lyles House is to the northwest of Harmony Hall, along Broad Creek, Fort Washington, Prince George's County, Maryland

Present Owner: National Capital Region of the National Park Service (property under long-term lease with Frank Calhoun and Carleton Huhn)

Present Occupant: Vacant

Present Use: Lyles House--or Want Water, as it is currently referred to--is now in a ruinous state, with only the brick end walls standing. Because the ruins of this significant early house are of interest for the purposes of architectural study, there are plans to stabilize it against further deterioration.

Significance: These are the remains of an important example of early 18th-century Maryland architecture. Although in ruinous condition, much can be learned of the construction and architecture of this period from its remains. The standing end walls reveal ghost images and other evidence of interior wall treatment, room plan, etc. The house was evidently among the finer homes in the county during the early-18th century, being of permanent, partially brick construction with fine interior details such as paneled walls, chair rail and cornice molding--all indicators of wealth for this period.

PART I. HISTORICAL INFORMATION

A. Physical History:

1. Date of erection: Early-18th century, possibly ca. 1708, the year the property on which the house was built--approximately twenty-six acres of "Want Water"--was patented by Thomas Addison. Estimations of its age, found in secondary sources, range from the 1690s to the first two decades of the 1700s.

2. Original and subsequent owners: (For references to deeds and wills, etc. see the HABS history from 1935.) Want Water was patented in 1706 by Col. Thomas Addison (deed from William Hutchinson recorded in October of 1708). The property passed from Col. Thomas Addison to his son John Addison upon his father's death in 1727. In 1736 the property was sold to Humphrey Batt, who later conveyed it to his son-in-law Richard Barnes, November 14, 1756.

In June of 1761, Want Water was purchased by Enoch Magruder, who later purchased the neighboring Harmony Hall. Since that time, Want Water and Harmony Hall have conveyed together. Upon his death in 1785, Want Water passed to Sarah Lyles, his eldest daughter, and the wife of Col. William Lyles. It eventually passed to Thomas C. Lyles, their son, following the death of his mother in 1820. The property remained in the Lyles family until 1850 when it was purchased by William J. Edelen. It was purchased in the 1920s by Charles W. Collins. After his death in 1966, his widow, Sue Spencer Collins, conveyed the property to the National Park Service. The property is currently under long-term lease by Frank Calhoun and Carleton Huhn.

3. Original plans and construction: Lyles House was built as a one-and-a-half-story, one-room-deep (first floor) house with a room to either side of a center hall.

4. Alterations and additions: Only a few changes to the house are evident due to its deteriorated state. There are discrepancies in two separate sets of drawings, one photocopied by HABS and drawn in 1924, and the other, drawn by HABS ca. 1935. One such discrepancy is in the occurrence of doors versus windows in the north and south end walls. The 1924 drawings show these end walls as they appear today, with a doorway at the north end, northwest corner only. The ca. 1935 drawings and photographs show a doorway here, and to either side of the fireplace on the south wall (shown as windows in the 1924 drawings). Furthermore, a former kitchen addition--evidenced by plaster along the exterior wall and a large pit filled with brick--would have necessitated doorways at the south end. It would appear that the south-end bays were windows, changed into doorways (when the kitchen was added), and back to windows again (when the kitchen was removed).

B. Historical Context:

If Lyles House is as early as it is believed to be (ca. 1690-1708), its remains may pre-date any structure found in the county today. In fact, it would have been built in a virtually unsettled frontier of the newly formed Prince George's County. Prior to the formation of Prince George's County from parts of Charles and Calvert Counties in 1696, this area was inhabited by the Piscataway Indians. White settlement was largely confined to the southern and eastern regions of the state, along the Chesapeake Bay and the Patuxent and Potomac Rivers. Initial settlements in Prince George's County followed these rivers north. Charles Town (also known as Mount Calvert) was the only established town. In 1706 and 1707, the General Assembly directed the establishment of six more towns, one of which was Aire, also known as Broad Creek, where the Lyles House was built.

Lyles House, therefore, was one of the earliest dwellings built in the County, and among the finest of its day (in the county or state). It is more elaborate in its detailing, and in its plan which was enlarged from the usual hall-and-parlor arrangement to include a center hall. The vast majority of dwelling houses in Prince George's County, as late as the 1790s (as evidenced by the Federal Direct Tax of that year), were one-and-a-half-story, wood-frame dwellings less than 500 square feet in configuration (for example, 16' x 24' square). Not only is Lyles House considerably larger than the average dwelling, measuring 46' 4" x 22' 4", but its construction was of a far sturdier, more permanent nature, and included exceptionally fine interior detailing such as paneled walls, chair rail and cornice molding. It was obviously the home of a person of means, as it was very atypical early settlement dwellings in this region.

The Addisons--to whom are attributed the construction of Want Water--were, in fact, extremely wealthy early settlers of this area. They owned considerable property along the Potomac River, including the 3,600 acre Oxon Hill Manor (believed to have been built in 1711). Col. Thomas Addison--the man believed to have built the Want Water house--became the first surveyor of Prince George's County in 1686. Thomas Addison was known as a plantation owner, merchant and land speculator. Upon his death in 1727, he left his children over 15,000 acres of property.

Little is known of the family's activities at Broad Creek, with the exception of Col. John Addison, father of Thomas. According to the vestry records for St. John's Church at Broad Creek--almost adjacent to Want Water--the first vestry meeting was held at the home of Col. John Addison in 1693, and within two years, the first church was constructed. Henry Addison, a descendant, became the second minister of St. John's in 1742 (and the current church was erected during his tenure). Perhaps, then, these members of the Addison family resided here.

Want Water, the name originally given to this tract of land, supposedly derives from the lack of direct access to the available waterways. At the time that the house was built, the roadways to and from this area would have been inadequate at best. Transportation of persons and goods by water, therefore, would have been essential. In order to remedy this situation, the owner of Want Water had a short canal built which provided direct access to Broad Creek--and from there to the Potomac River--from the rear of the house. This canal is still visible.

Want Water remained in the Addison family until 1736 when it was purchased by a Humphrey Batt. It remained in that family for twenty-five years, passing from Batt to his son-in-law, Richard Barnes. In 1761, Want Water was purchased by Enoch Magruder, a wealthy landholder with numerous other properties in the county. Enoch purchased the neighboring Harmony Hall--then known as Battersea--in 1769. From this point on, Want Water and Harmony Hall convey together (adding to the confusion of who lived where and when). It is most likely that Enoch's eldest daughter, Sarah, and her husband, Col. William Lyles, lived here from that time. Upon the death of Enoch Magruder, Sarah and William Lyles would receive title to both Want Water and Harmony Hall.

Sarah and William Lyles would later pass the properties on to their son Thomas C. Lyles. As stated in William Lyles' will, to Thomas, "the plantation and houses whereon I now live" (Docket 1810, 2-20-1816). It can be reasonably assumed that Thomas lived at Want Water from a legal description in a deed reference which states, "Beginning at a stone standing near the edge of the water of Broad Creek and near the dwelling of the late Thomas C. Lyles and running hence up the lane dividing the said Harmony Hall from the said Lyles land" (Deed JBB 7:92). Thomas C. Lyles died in 1845, and in 1850 the two tracts were sold to William J. Edelen (Deed JJB 7:92).

The properties went to equity in 1873, and were owned from 1879 until 1892 by two gentlemen--probably investors. It was known as "Broad Creek Farm" while owned by Richard Stein from 1892 until 1929. It was purchased in 1929 by Charles Collins, and by that time Want Water was abandoned and the Collinses were living at Harmony Hall. It is possible, therefore, that Want Water has been abandoned since the beginning of the 20th century, or even before. When photographed by HABS in 1936, the house was already in a ruinous state.

PART II. ARCHITECTURAL INFORMATION

A. General Statement:

1. Architectural character: The Lyles House was a one-and-a-half-story, gambrel-roofed dwelling--the identifying features of what is referred to as Tidewater-style architecture. Although the basic configuration of Lyles house was typical of the dwellings found in Maryland during the 18th century, this house was exceptional in its quality of materials and details. The walls to the front and rear were of wood frame and the end walls, of brick laid in Flemish bond, and incorporating such refined elements as random glazed headers, queens closers, molded water table, flat-arched lintels and shouldered chimneys. Furthermore, its center-hall plan was an expansion of the hall-and-parlor plan typical of the period. Its interior included numerous refined elements as well, such as paneled walls, and chair rail and cornice moldings.

2. Condition of fabric: The Lyles House is in an advanced state of deterioration. The wood-frame construction of the house has almost completely rotted away, leaving only the brick end walls standing to either end of the partially rebuilt stone foundation. The floor joists remain, in poor condition. The interior of the end walls give the only glimpses of the original character of the house through remnants of plaster, nailing blocks, etc.

B. Description of Exterior:

1. Overall dimensions: Lyles House was a one-and-a-half story, four-bay- (entry bay also has sidelight-like windows) by-two-bay, gambrel-roofed structure measuring approximately 46'-4" x 22'-4". It has exterior gable-end

chimneys, and had three dormers at both the front and rear. The east front and west rear--as seen in HABS photos and drawings--were nearly identical, forming a true front, oriented towards the roadway, and a river front, facing Broad Creek.

2. Foundations: There is a rubble stone foundation which has been repaired in a number of places with concrete block. Galleting was used in the mortar joints in some areas. There are basement windows at the west rear and south side where the grade is slightly lower, and a basement entry at the north side.

3. Walls: The wood-frame walls of the east front and west rear are no longer standing. Notations on the ca. 1935 HABS drawings state that the siding was 5" to 8" lap joint siding (A piece of what may be siding, found in the basement, was approximately 8" wide and had wrought nails in one end, but was not lapped or beveled). The end walls, which are still standing, are of brick laid in Flemish bond, with a molded brick water table. The walls are thicker on the first floor than on the second. There are random glazed headers and queens closers.

At the south end, there is plaster on the exterior wall indicating the existence at one time of an addition. The remains of this plaster suggest a single story (probably kitchen) addition, with lower ceilings than the main block, and the presence of chair rail. A hole for a stove pipe has been made into the chimney block. Along the west side of the chimney block are the remains of what looks like cut nails with wrought heads, suggesting a late-18th or early-19th century date for the kitchen addition (or at least, some interior finish such as paneling).

4. Structural system, framing: All that appears to remain of the wooden structural system are the rotting sills, summer beam and floor joists. The end walls are of load-bearing masonry.

5. Porches, stoops: According to the ca. 1935 HABS drawings, there was a brick stoop at the east front and a brick terrace at the west rear. The brick stoop was necessary at the east entry due to the slightly lower grade. The drawings show a narrow (approx. 4') stoop, made of paving brick, extending out from the house about 14'. The terrace to the rear measured 5'-6" x 6'-0".

6. Chimneys: There are exterior brick chimneys at both gable ends, north and south. They are of brick laid in Flemish bond with queens closers (like the main block). They are shouldered to either side and to the front, where the chimney block that served the first-floor fireplace tapers in to form the stack (there is no fireplace on the second floor, only a hole cut for a stove pipe). The shouldered sides are covered with brick laid flat, to cover a broader surface. The caps are corbelled. The water table that appears on the main block is carried over along the base of the chimney. The interiors of the chimneys are divided into two flues.

7. Openings:

a. Doorways and doors: There were doorways, slightly off center, across from each other at the east front and west rear--now gone along with the walls (see drawings for doorway and door profiles and schedules). The doorway at the north end wall has fallen out. There is a basement doorway (surround has rotted) at the north wall beneath the east side window.

b. Windows: Nothing remains of the muntins, stiles and rails of the windows, and little of the surrounds and sills. One first-story window in the southeast corner has a rotting wooden sill with nosing, and a plain wooden surround--any finish pieces are now missing. (See HABS drawings for profiles of window sills and casings.) The 1924 drawings, and 1930s HABS drawings and photographs, indicate that the windows were tall nine-over-nine-light-sash on the first floor, with smaller six-over-six-light-sash, sidelight-like windows to either side of the east and west doorways, with small four-over-four-light-sash windows in the dormers. There are flat-arched brick lintels and wood sills in the brick end walls (one round-arch lintel in north wall, second story).

8. Roof:

a. Shape, covering: The shape of the end walls (and the historical data) indicate that the roof--now gone--was a gambrel roof. The HABS photos from the 1930s show a roof covered with wooden shingles.

b. Cornice, eaves: Now gone (see HABS drawings for profiles).

c. Dormers: There were three gable-roof dormers at both the front and rear elevations, now gone (see HABS drawings).

C. Description of Interior: Most of the interior of the dwelling is now gone; see the HABS drawings and photographs for details. Only those details evident from the remains will be discussed here.

1. Floor plans:

a. First floor: Examination of the interior of the brick end walls indicates that the house was only one room deep on the first floor. Paneled fireplace walls obviously appeared at both ends of the house, as evidenced by the presence of nailing blocks, but no plaster. The HABS drawings show a center hall plan with a boxed winder stairway off of it, and a room to either side (south room larger).

b. Second floor: There are discrepancies in the second-floor plan between the 1924 and ca. 1935 drawings. Because they were done so close together, and the house was in ruins by 1935, one or both sets of drawings must be, at least in part, speculative. The major difference seems to be whether the stair hall ran north-south along the front of the house, or this area was a bedroom, and the larger room to the rear of it was the stairhall (see drawings). The plaster walls seen at the south end indicated that this area was partitioned into two rooms.

2. Wall finish: The remains of the brick end walls indicate that there were wood-paneled walls at both ends of the first floor (no plaster, and nailing blocks are visible) and that the second-floor end walls were plastered and had chair rail.

3. Decorative features: There were large, round-arch fireplaces to the center of both the north- and south-end walls, surrounded with paneled walls.

D. Site:

1. General setting and orientation: The remains of the Lyle House, or Want Water Ruins, face east into what is now an overgrown wooded area. To its west rear is a small canal, with Broad Creek of the Potomac stretching out beyond it. Access to the remains is from a narrow dirt road which runs past Harmony Hall and its waterfront pastures, located to the north, and then follows the canal.

2. Historic landscape design: The canal to the west is all that remains of the historic landscape of the Lyle House. The area has been abandoned and overgrown for so long that any evidence of landscape features--outbuildings, gardens, approaches from the east front of the house, etc.--have been obscured. The ca. 1935 HABS drawings show, however, a brick terrace along the west rear--which fronted on the water--and a long brick stoop to the east front.

3. Outbuildings: No evidence was found of outbuildings (though little investigation in this area was done). Evidence of a former (probably kitchen) wing can be seen to the south side of the house, such as plaster along the exterior wall, a pit for foundation work, and brick rubble.

PART III. SOURCES OF INFORMATION

A. Architectural drawings: The early HABS collection includes two sets of drawings. The first was photo-copied from drawings executed by Albert P. Erb in 1924. They include east front and north side elevations, floor plans and exterior and interior details. A set of drawings was also undertaken by Volney Chase and John W. Stenhouse, delineators for HABS, ca. 1935 (not dated, but the photographs were taken in 1935), and also include elevations, plans and details. There are a few discrepancies between the two sets, most notably in the layout of the second floor.

B. Early Views: The Lyles House was photographed by Albert S. Burns for HABS on October 5, 1935. Five views were taken including exterior perspectives from the southeast and northwest, details of the west entrance and of the paving brick of the west terrace, and an interior view showing the fireplace and paneled wall of the south room. The house was already abandoned and in a deteriorating state, although the

main block (not the wing) was standing.

C. Bibliography:

a. primary and unpublished sources:

Federal Direct Tax of 1798, for Prince George's
County, Maryland (on microfilm), Hyattsville
Public Library, Hyattsville, Maryland.

Land Records, Prince George's County Courthouse,
Upper Marlboro, Md., deeds and equity cases as
cited in text.

Register of Wills, Prince George's County
Courthouse, Upper Marlboro, Md., wills and
administrations as cited in text.

b. Secondary and published sources:

Collins, Charles. HABS data for Lyles House, 1936.

Pearl, Susan. Chain-of-title information for Want
Water, on file, Prince George's County
Historic Preservation Commission, 1986.

Prepared by: Catherine C. Lavoie
HABS historian
completed January 1992

PART IV. PROJECT INFORMATION

The documentation of the Lyles House or Want Water ruins was undertaken as part of a cooperative project between the Historic American Buildings Survey (HABS), Robert J. Kapsch, chief, and the Maryland National Capital Park & Planning Commission on behalf of the Prince George's County Historic Preservation Commission to document sites throughout the county. A one year project was begun in January of 1989, lasting approximately one year. Upon its completion, a phase II was begun, in March of 1990, also to span approximately one year's time. The site selection was made by Gail Rothrock, director, and Susan G. Pearl, research historian, for the HPC. They also provided access to their research and information on file with the HPC, as well as their extensive knowledge of county history. The large format photography was undertaken by HABS photographer Jack E. Boucher. The historical report was prepared by HABS historian Catherine C. Lavoie, who accompanied the photographer into the field for on-site investigation.